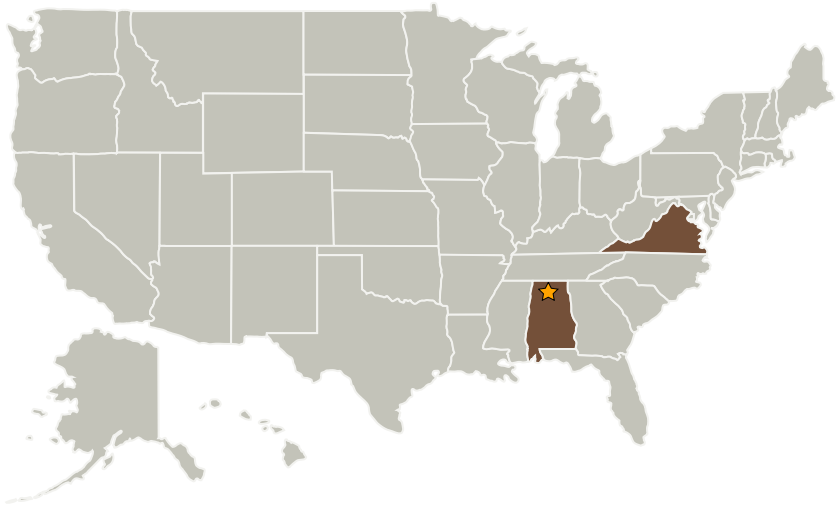
Telerobotic Satellite Servicing for Space System Life Extension and Performance Enhancement, Phase I

Completed Technology Project (2006 - 2006)

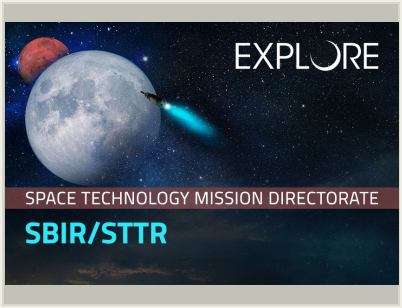
Project Introduction

By examining the occurrence rates and types of actual on-orbit failures, a failure servicing industry can be projected. Similarly, by examining the lifetimes of working or recently retired spacecraft, a lifetime extension servicing market can be characterized. By examining actual historic servicing opportunities and combining this information with consideration of operational uncertainties, it is possible to define a set of servicers that range from low to high in mass, required servicing capability, lifetime risk to the serviced spacecraft, and potential economic return. This knowledge in turn will show how a set of increasingly capable servicers can establish an economically viable on-orbit telerobotic satellite servicing industry. Development of servicer design requirements will serve to identify key technologies. The applicability of these commercial capabilities to Exploration related assets and missions will also be examined.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Marshall Space Flight Center(MSFC)	Lead Organization	NASA Center	Huntsville, Alabama
AeroAstro Corporation	Supporting Organization	Industry	Ashburn, Virginia



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Marshall Space Flight Center (MSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations	
Alabama	Virginia

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
  - TX12.3 Mechanical Systems
    - TX12.3.7 Mechanism Life Extension Systems